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ARNOLD SCHWARZENEGGER, Governor

S006

September 25, 2007

Dan Leavitt
California High-Speed Rail Authority
925 L Street, Suite 1425
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Dear Mr. Leavitt:

Bay Area to Central Valley High-Speed Train (HST)
Draft Program Environmental Impact Report
and Environmental Impact Statement (DEIR/DEIS)
SCH No. 2005112051

The Department of Fish and Game (Department) has reviewed the DEIR/DEIS submitted by the California High-Speed Rail Authority (Authority) and the Federal Railroad Administration (FRA) for the San Francisco Bay Area to Central Valley portion of the statewide high-speed train system (Project). The area of analysis includes a broad corridor from the Bay Area to the Central Valley, between the Altamont Pass to the north, the Pacheco Pass to the south, the BNSF rail corridor to the east, and the Caltrain corridor to the west. The proposed HST system is an electrified steel-wheel-on-steel-rail system capable of speeds up to 220 miles per hour (mph) on a fully grade-separated, access-controlled track with state-of-the-art safety, signaling, and automated control systems. The DEIR/DEIS will enable the Authority and FRA to evaluate the potential impacts of proposed HST system alignment and station locations in the Bay Area to Central Valley corridor, select preferred alignments and station locations, and define general mitigation strategies to address any potentially significant adverse impacts.

The Department is concerned that the DEIR/DEIS does not adequately address potential impacts the proposed alignments and associated facilities will have on Department-owned or managed lands, wildlife movement, threatened and endangered species, and sensitive habitats. While the DEIR/DEIS is broad in its scope and analysis, it does not contain the necessary information, even for a Program-level document, to allow the public, the Authority and the FRA to make an informed decision and to adequately compare the potential biological impacts of each alignment alternative or to select a preferred alignment based on probable biological resource impacts. In addition, the level of analysis in the DEIR/DEIS is inadequate to allow the Trustee Agencies and other reviewers information necessary to compare differing impacts of each proposed alignment to specific species, habitats, and movement areas so that an informed decision is possible. S006-1

We recommend that the DEIR/DEIS be amended to include information regarding alignment impacts to Department lands and other conservation and mitigation lands and that the Biological Resources and Wetlands section be rewritten to include information that will allow meaningful comparisons between proposed alignment alternatives. The Department urges the Authority and the FRA to complete the additional suggested program-level analyses and recirculate the DEIR/DEIS prior to certification of a final environmental document for the Project and selection of preferred alternatives.

The Department offers the following comments and recommendations on the DEIR/DEIS regarding impacts to wildlife, the habitats on which they depend, and the Department's jurisdiction and role in conserving lands for the benefit of those species. The Department has participated in agency meetings held by the Authority and FRA and has provided comments on the California High-Speed Train Draft Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Many of our concerns continue to remain unaddressed in the DEIR/DEIS.

Trustee Agency Authority: The Department is a Trustee Agency with the responsibility under the California Environmental Quality Act (CEQA) for commenting on projects that could impact plant and wildlife resources. Pursuant to Fish and Game Code Section 1802, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, the Department is responsible for providing, as available, biological expertise to review and comment on environmental documents and impacts arising from project activities, as those terms are used under CEQA.

Responsible Agency Authority: The Department has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under the California Endangered Species Act (CESA), the Department may need to issue an Incidental Take Permit for the Project.

The Department also has regulatory authority with regard to activities occurring in streams and/or lakes that could adversely affect any fish or wildlife resource. For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed, the Department may require a Stream Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code.

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Impacts to Department-Owned or Managed Lands: Department Wildlife Areas are acquired for the protection and enhancement of habitat for a wide variety of species and are open to the public for wildlife viewing, hiking, hunting, fishing, and nature tours. The construction and operation of high-speed rail within or near Department lands could severely limit the wildlife and public use values of these lands as well as alter the way these lands are managed by the Department. Some Wildlife Areas depend on visitor's fees for operations, maintenance, and management. The HST may negatively impact the number of visitors to Wildlife Areas resulting in reduced revenues; thereby reducing or eliminating the public recreational opportunities and wildlife habitat provided by the lands.

The Department has previously commented on potential impacts to Department lands for both the Statewide HST EIR/EIS and the Bay Area to Central Valley portion of the HST system and provided the Authority with a geographic information system (GIS) layer consisting of the boundaries of Department lands to facilitate individual alignment impact evaluation. The Authority and FRA appear to have disregarded those comments by not including Department-owned and managed lands in the biological resource impact analysis for each proposed alignment. Maps within the DEIR/DEIS do not identify any Department lands, including those within the footprint of the proposed alignments.

Specific Department lands that are adjacent to, bisected by, or occur within one mile of proposed Bay Area to Central Valley alignments (Pacheco, Henry Miller and GEA North) include Cottonwood Creek Wildlife Area (Upper and Lower), San Luis Reservoir Wildlife Area, O'Neill Forebay Wildlife Area, Volta Wildlife Area, Los Banos Wildlife Area, and North Grasslands Wildlife Area.

The Los Banos Wildlife Area is adjacent to the north side of Henry Miller Road and the proposed Henry Miller alignment. The proposed Henry Miller alignment would directly impact the Wildlife Area and the wildlife that use it. In addition to direct and indirect impacts to wildlife, the alignment could also impact public hunting and fishing opportunities in the area. The proximity of the train tracks to areas used by the public for waterfowl (and upland) hunting should be addressed.

The proposed Pacheco alignment bisects the western half of the Upper Cottonwood Creek Wildlife Area north of State Highway 152 and the proposed GEA North alignment bisects the southern half of the China Island Unit of the North Grasslands Wildlife Area along State Highway 140. While the maps may be conceptual in terms of the exact alignments, the location of the railway along Highways 152 and 140 will have direct impacts to Upper Cottonwood Creek, Lower Cottonwood Creek, San Luis Reservoir, and North Grassland Wildlife Areas, as they occur immediately north and south of the highways. S006-1 Cont.

The Secretary of Transportation may approve a project requiring the use of publicly owned land of a wildlife and waterfowl refuge only if there is no prudent and feasible alternative to using that land; and the project includes all possible planning to minimize harm to the wildlife and waterfowl refuges from the use. "Use" includes substantial impacts to wildlife resources due to close proximity of a transportation project (Department of Transportation Act 49 U.S.C. Section 303, formerly Section 4[f]). If the Pacheco Pass, Henry Miller, or GEA North rail alignments are chosen, there will be significant impacts to State wildlife areas. The DEIR/DEIS currently does not present details as to the design and operation of the HST, and it is unclear what measures will be implemented should these alignments be chosen. Further, the Altamont Pass alignment alternatives present feasible alternatives to using Department wildlife areas and should be evaluated accordingly.

Impacts to the Grasslands Ecological Area (GEA): The GEA is a 230,000 acre complex of State and Federal refuges and privately owned wetlands. The GEA boundary is a non-jurisdictional boundary which has been designated by the United States Fish and Wildlife Service (USFWS) as a priority area for protection and enhancement. The GEA is comprised of wetlands, riparian woodlands, native grasslands, vernal pools, and other habitats which support abundant and diverse wildlife, including numerous threatened and endangered plants and animals. The area also provides critically important wintering and breeding habitat for migratory waterbirds utilizing the Pacific flyway.

The DEIR/DEIS underestimates the HST system's impacts on the GEA and the animals that inhabit the sensitive lands within. Page 3.15-46 of the "Special Management Areas" section states that the Henry Miller alignment alternatives would not impact the GEA. <u>This is incorrect</u>.

The Henry Miller alignment would bisect the GEA east to west, along Henry Miller Road, causing further fragmentation. Page 3.16-11 further states that "the GEA is within 150 feet (46m) of the Henry Miller alignment alternatives." However, the Henry Miller alignment alternative is within the GEA and does not run adjacent to it, as is seemingly suggested.

The DEIR/DEIS states that the GEA North alignment alternative does not have the potential to impact California tiger salamander (*Ambystoma californiense*) (CTS) (page 3.15-45). Based on available data and proposed alignments, this statement is incorrect. CTS are known to occur within the GEA and, without conducting extensive surveys along the entire rail alignment within the GEA, potential impacts to CTS cannot be ruled out and should be assumed. Impacts are likely to both breeding pools and upland habitat areas utilized by this species.

Wildlife Movement: The single biggest biological impact potentially arising from construction of the HST is the impact on regional movements of wildlife and connections between habitats. The HST has the potential to disrupt already beleaguered wildlife passages, threatening the continued viability of many species. Construction of access-controlled rail lines may create barriers to the movement of wildlife, thereby cutting them off from important food, shelter, or breeding areas. Isolation of sub-populations limits the exchange of genetic material and puts populations at risk of local extinction through genetic and environmental factors. Barriers can prevent the recolonization of suitable habitat following local extirpations, ultimately putting the species at risk of extinction. The most effective way to reduce these impacts is avoidance; hence, the critical importance, at this stage and in Project development, of being able to make an adequately supported decision between the alignment alternatives. S006-1 Cont.

The DEIR/DEIS provides no meaningful analysis and only provides a two or three sentence summation for the existing condition and possible impacts for each alignment alternative. Combined with the generalized mitigation measures, the reviewer is left with the impression that impacts to habitat connectivity are similar for both the Pacheco and Altamont alignments and that whatever impacts do exist are easily mitigated.

Figure 3.15-3 is missing the most vital corridors in the area and contains others (such as 4 and 15) that run through dense urban areas and are, therefore, limited in use. Substantial information exists on which the corridor impact analysis should have been based, such as the work by James Thorne and others from the Univeristy of California, Davis, in 2002 and 2006, tracking data from mountain lion and tule elk research and work associated with the Santa Clara HCP/NCCP which has specifically identified 17 corridors in Santa Clara County of significant importance. Critical corridors in Santa Clara County that must be added to the map and evaluated are perpendicular to Highway 152, along the Pacheco Pass, and across Coyote Valley, just south of San Jose.

In addition to problems with identification of corridors, the DEIR/DEIS does not adequately address the impacts of the Project on movement areas. For example, the cross-valley corridor, from the Diablo Range to the Santa Cruz Mountains in Coyote Valley, has been identified as one of only two remaining areas where connection occurs between the San Francisco peninsula and the rest of the State. This corridor is under significant threat from existing and planned development, including heavily used transportation infrastructure, and would be further degraded by placing an HST alignment across it. This corridor is not shown on Figure 3.15-3.

Both the GEA North and the Henry Miller alignments would result in significant and irreversible impacts to the State threatened San Joaquin kit fox (*Vulpes macrotis mutica*) (SJKF), by impacting the entire northern range of the species. Either of these alignments would create a significant movement barrier between the southern and northern kit fox populations. The Santa Nella area has been identified by the Department and the USFWS as a "pinch point" in the connectivity between the north and south populations of SJKF. There is a very narrow area remaining in the Santa Nella vicinity that is usable for kit fox north-south movement, and the Henry Miller alignment would sever this remaining movement area. Both the GEA North and the Henry Miller alignments would isolate the Los Banos Valley core kit fox population from the northern population of kit fox. An influx of individuals from the Los Banos Valley is thought to be critical to the continued existence and genetic diversity of the northern kit fox population. As a result, either of these alignments would, at a minimum, impact the entire 420,000 acres of kit fox range, north of the Project area in addition to the Project footprint. In order to permit either of these alignments under CESA, sufficient kit fox movement corridors would be required. Allowing for effective kit fox passage could significantly affect Project costs, as there would be a major structural component, and would need to be addressed in the early design phases, in consultation with the Department and the USFWS.

In addition, there are several movement corridors and habitat lands protected in perpetuity as mitigation for impacts to kit fox movement and habitat resultant of other projects in the Santa Nella area. Both the GEA North and the Henry Miller alignments would sever one or more of these kit fox mitigation areas and render them completely ineffective.

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The kit fox movement and potential population-level Project-level impacts posed by the GEA North and the Henry Miller alignments are significant and should be evaluated in light of Fish and Game Code Section 2055 (conservation of threatened and endangered species by State Agencies, Boards, and Commissions).

In order to reduce kit fox and other wildlife movement impacts due to the permanent wildlife barriers that would result from at-grade, access-controlled railways, the Department recommends that all segments of the railway that are not using existing rails be elevated. Elevation of the rails could reduce the impacts the HST system would have on animal movement and migration by allowing wildlife to pass freely underneath the entire length of the railway while providing the access-controlled tracks that are required for HST. Elevated railways would be more effective in facilitating animal movement than the proposed wildlife underpasses and overpasses, which are not always effective for various reasons. Because animals would be able to see through the underside of the tracks to the other side, they would be more likely to walk underneath the tracks than to use a tunnel or vegetated overpass where the view of the other side would be visually obstructed. Elevated railways would be critical in areas where the movement of wildlife is already reduced due to existing and proposed geographic, transportation and structural barriers, such as in western Merced County near the intersections of State Highways 152 and 33 and Interstate 5.

If wildlife movement passage structures will be used instead of elevated tracks, research should be conducted before the alignment selection to determine the locations, numbers, and types of structures. Specific alignments and wildlife passage structures, such as underpasses, overpasses, elevating the alignment and tunnels, may not be suitable for all species and locations and would need to be evaluated carefully before subsequent analysis of alignment

sections. Methods to determine the best locations for wildlife movement structures or avoidance should include at a minimum: 1) track count surveys, 2) ditch crossing surveys, 3) monitoring trails with infrared or Trailmaster cameras, and 4) GIS habitat modeling to identify likely wildlife travel corridors and anthropogenic barriers (such as highways, canals, and reservoirs) at the landscape level. In addition, wildlife habitat linkages will need to be identified using habitat models, information from the movement studies, GIS analyses, and Department expertise.

Given the scale of potential impacts to wildlife movement, the required number of movement corridor mitigation measures and structural considerations could be substantial. The DEIR/DEIS must discuss the potential scope of the mitigation program so that the Authority and the Public may properly assess the cost-feasibility of the Project. The scale of potential impacts from this Project are unprecedented, and the Department can envision the costs of mitigation for wildlife passage alone ranging up to at least 20% of the HST capital construction cost.

While the Department agrees with the assessment in the DEIR/DEIS that the construction and operation of HST will have significant impacts to SJKF, including potential species isolation, as a result of the Pacheco, Henry Miller and GEA North alignments; the DEIR/DEIS should not limit its assessment of wildlife movement impacts to threatened or endangered wildlife. S006-1 Cont.

Section 3.4-Noise and Vibration Impacts: The DEIR/DEIS uses 100 decibels (dBA) as the sound threshold for impacts to wildlife and cites the 2005 High Speed Ground Transportation Noise and Vibration Assessment (Assessment) as a basis for this estimate. However, the Assessment presents data showing wildlife impacts at sound levels as low as 77 dBA. It is unclear why 100 dBA was used for noise impact estimation instead of 77 dBA.

Based on the data presented in Figure 3.4-1 and the 100 dBA estimate, the DEIR/DEIS states that "wildlife in natural areas would be minimally affected by train passbys at speeds of up to 180 mph at distances of 60 feet or more" (page 3.4-6). This statement does not address the fact that in less constrained areas (flat and straight), such as the Henry Miller alignment adjacent to Department lands and within the GEA, trains will be traveling at speeds greater than 180 mph with a maximum of up to 220 mph (page 3.4-9). Further, Figure 3.4-1 does not include speeds over 180 mph and, therefore, does not present an estimated distance from the train where the Authority and FRA would consider noise impacts significant at speeds greater than180 mph.

The potential noise impacts to wildlife should be presented in more detail and should include impacts, such as nest abandonment by birds nesting near the train tracks. In the case of the State threatened Swainson's hawk, which is known to nest in trees along the proposed Henry Miller alignment, nest abandonment caused by train travel could be a significant impact.

Noise and vibration will likely have impacts to "sensitive land uses," including the Department's Wildlife Areas, and other conservation lands. These areas should be considered "sensitive land uses" to be evaluated within a minimum 1,000-foot study area.

The Department continues to recommend that a noise and vibration impact study be developed that includes noise and vibration ranges expected to impact wildlife. The study should examine noise, below surface vibration, and surface vibration impacts on wildlife. The study design should be approved by the Department and the USFWS.

Section 3.7-Existing Land Use Compatibility: The DEIR/DEIS states that "the Henry Miller alignment alternative is compatible with existing land uses as it traverses at-grade along Henry Miller Road between Santa Nella and Elgin Avenue and the GEA" (page 3.7-33). The Department disagrees with this assessment. The construction and operation of the HST along Henry Miller Avenue through the GEA and State-owned lands is incompatible with the existing land uses. As previously stated, Department Wildlife Areas are acquired for the protection and enhancement of habitat for a wide variety of species and are used by the public for wildlife viewing, hiking, hunting, fishing and nature tours. The HST is not compatible with these purposes or uses of State, Federal or other managed lands within the GEA and could reduce the overall beneficial value of these lands.

The DEIR/DEIS presents the Pacheco alignment as "potentially incompatible" in areas east of Gilroy. This classification underestimates the impacts of the HST on State Wildlife Areas and conservation areas in the area. The operation of the HST through and adjacent to Wildlife Areas is clearly incompatible with the uses and goals of the Wildlife Areas. In addition, the Pacheco and Henry Miller alignments will bisect lands placed in conservation easement and used as mitigation for developments within and south of the Santa Nella Community Specific Plan (CSP). It is important to note that perpetual conservation easements were placed on this land, in part, for the establishment and protection of a SJKF movement corridor. The construction of an at-grade, access-controlled railway through the area would effectively eliminate the use of the area as a movement corridor by kit fox and would violate the State and Federal requirements for management and functionality of these mitigation lands.

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The Department agrees with the classification of "highly incompatible" for the GEA North alignment. In addition to being incompatible with existing agricultural uses, the alignment is also incompatible with the GEA and Department Wildlife Areas, as the proposed alignment will travel adjacent to and within the southern boundary of the China Island Unit of the North Grasslands Wildlife Area.

Section 3.15-Biological Resources and Wetlands: It appears that the primary means of predicting impacts to biological resources are landscape-level vegetation mapping, comparison of numbers of species found in the California Natural Diversity Database (CNDDB), and a very cursory review of habitat connectivity (noted in the DEIR/DEIS under the term "Wildlife Corridors").

Landscape-level vegetation mapping can be a very useful tool in informing environmental decisions, including impact analysis, but should not be considered a stand alone technique. This is because the necessary coarseness of the method does not allow for anything but generalized conclusions. For some projects, this approach may be acceptable at a programmatic level, but when comparing specific alignment alternatives, it is inadequate.

For example, sycamore alluvial woodland is an extremely rare plant community which, in CNDDB nomenclature, is considered a G1/S1.1 element. This means that there are less than 2,000 acres in existence globally, and it is considered "Very Threatened" in California. Occurrences are found along both the Altamont and Pacheco alignments, but there is no comparison of the effects for each alignment, possibly because the resource has not been differentiated in the mapping. Another example is alkaline wetland, another very rare habitat type that is very difficult to detect or distinguish from other habitat types using the mapping techniques described. Alkaline wetlands support varied plant communities, sometimes including rare plants such as saline clover (*Trifolium depauperatum* var. *hydrophilum*) which was thought to be extinct until it was recently rediscovered. Alkaline wetlands are known to occur in Santa Clara and Merced Counties and might be present in Alameda and San Joaquin Counties as well.

Similarly, use of the CNDDB as a proxy for actual field work has significant problems. First, simply comparing the numbers of rare or endangered species along each alignment is an exercise with little value. In addition to the number of different species affected, the real issues are: how many impacts will occur, what the magnitude of those impacts might be, and what that means for the specific species along the alignments and across the full range of those organisms. To use an extreme and artificial example as an illustration, suppose that one alignment had 25 rare or endangered species scattered along its length and, thereby, potentially impacted. Suppose the other alignment had 6. A simple comparison of numbers might lead a reviewer to conclude that the alignment with the fewer occurrences was environmentally superior. However, if additional information revealed that all 25 species along the 'biologically inferior' alignment were widespread in distribution and had population numbers in the thousands, while the 6 along the other alignment were all local endemics with total populations numbers in the tens or hundreds, the conclusion would be the opposite.

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In addition to the preceding problem, the nature of the CNDDB makes it difficult to use as the final word for developing a biological impacts analysis. Plant and animal occurrences are only recorded in the CNDDB if the site has been previously surveyed during the appropriate season, detections were made, and the observation was reported to the Department. As such, the use of CNDDB locations to compare alignment alternatives is tentative because the number of CNDDB occurrences may be more of a result of survey effort than a species' presence in an area. Further, it cannot be assumed that the data in the CNDDB are wholly representative of the number of rare or endangered species or communities in a specific area, the population distributions of those species or communities, or how the project areas are utilized.

Altamont Pass: Based on the Department's familiarity with biological resources within the Project area, the Altamont Pass is the preferred HST alignment alternative connecting the Bay Area to the Central Valley for the following reasons. The Altamont Pass alignment is the only alignment option being considered with an existing infrastructure, which would facilitate construction and operation of HST along one of the proposed alignments within the Altamont Pass, and this alignment is also likely to have fewer adverse impacts to fish and wildlife resources than the other alignment alternatives. This determination by the Department does not reduce the need for additional research and recirculation to effectively evaluate and compare all alignment alternatives as required under CEQA and the National Environmental Policy Act (NEPA).

In summation, the DEIR/DEIS does not adequately address potential Project-related impacts to biological resources or to Department-owned and managed lands. The purpose of the DEIR/DEIS, as stated in Section 1.1, is to compare the Altamont alignment alternatives to the Pacheco alignment alternatives, but there is insufficient information provided for a valid comparison. The DEIR/DEIS uses proxies in place of actual data and, in the Department's opinion, those proxies are completely inadequate to determine which of the two alignments is superior biologically. While the Department agrees that a programmatic environmental document should and typically contains less specific data than a project-level document, in order to meet CEQA's substantive mandate that a public agency must avoid or mitigate project-related significant impacts on the environment to the extent feasible, the Authority and FRA must provide adequate biological information on which to base a meaningful analysis and decision. The Department does not concur that the information in the DEIR/DEIS meets that standard.

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These comments reflect input from both the Department's Central Region and the Bay-Delta Region. If you have any questions regarding these comments or would like the Department to assist in identification of sensitive habitat areas within the Project area, please contact Justin Sloan, Environmental Scientist, at the address provided on this letterhead or by telephone at (559) 243-4014, extension 216, for input pertaining to Merced and Madera County portions of the Project or Dave Johnston, Environmental Scientist at (831) 466-0234 for input pertaining to the Alameda , San Francisco, San Mateo, and Santa Clara County portions of the Project.

Sincerely,

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